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THOMAS G. NEWMAN,

Vol. XXVI. Dec. 13, 1890. No. 50.

EDITORIAL BUZZINGS.

Now doth the little busy bee Refrain from every toil, And through the Winter season she All days and months beguile.

She dines on dainties rare and sweet, And wastes her time away; From now till Spring she'll simply eat And rest from day to day.

NextYear we shall have a Department entitled "Current Bee-Notes," in which we shall briefly give the contents of the apicultural publications of the World. This will be a valuable addition to "the only Weekly Bee-Paper in America." By reading it you will obtain the news, experiments, inventions, and important beeliterature of the World, in brief form.

The Many Friends of Mr. Dwight Furness, late of Indiana, will be pleased to learn that he was married to Miss Anna M. Rodgers, on Thursday, Nov. 27, 1890, at Guanajuato, Mexico. The happy pair will be at home after Dec. 15, at Guanajuato, Mexico, where, we presume, they will make their future home. The BEE JOURNAL wishes them much happiness and prosperity.

The ILLUSTRATED HOME JOURNAL is received and examined. It is well printed on good paper, is clean and handsome in appearance, with contents to match, and deserves wide circulation.—Allen Pringle, Selby, Ont.

"Frank Leslies' Illustrated Newspaper" for the week ending Dec. 13, has fine illustrations of the Sioux Indian dance and incidents of the Indian excitement, with a striking full-page picture of the "Frank Leslie's Alaska expedition descending the perilous Alseck River."

Suggestions about the financial and permanent character of the "North American Bee-Keepers' Association" are made by the Secretary in *Gleanings*, as follows:

FRIEND ROOT:—As you said at the Keokuk meeting, that you would undertake to get 20 or 30 life-members to the Association, and as we must try to manage to save a certain capital for the Association, I suggest that we make it a point to have the funds thus gathered invested in some safe interest-bearing investment, the interest only to be used by the Association. In this way we can perpetuate the good work and create an interest. I would even go further; for, as the yearly subscribers are usually sufficiently numerous to pay annual expenses, it seems to me we ought to set aside also the affiliation fees of the State, Territorial and local Associations. In a few years we should have a capital large enough to enable us to offer prizes and premiums for competition, and we should raise an interest much greater than formerly in our meetings. Would you be so kind as to take the matter in hand, and discuss it in Gleanings? We must do something to get out of the old rut.

C. P. DADANT.

To this excellent suggestion the editor appends the following:

All right, Secretary Dadant. We will back you in all your suggestions as far as we can. Now, then, who among the readers of Gleanings is willing to pay up and stand by us in the effort to make the North American Bee Keepers' Association a permanent institution? It will cost you \$10, it is true; but after that you can attend the Convention for 40 years, if you live so long, and not pay anything. I have in mind quite a few of our readers who, I think, might, could, and should stand up. Let us hear from you. So far as I know, the editor of the American Bee Journal, and Ernest and myself, are at present the only life-members. Who will stand with us?

Brother Root makes one important omission-quite unintentionally, we are fully aware-that must be promptly corrected. It is now ten years ago that we became a life-member of the Association by vote and the payment of \$10 (you will see that we already have our money back in annual fees for ten years). We were the first life-member, but not the only one, Brother D. A. Jones followed immediately, and Dr. Ehrick Parmley, the Secretary, then and there issued to each of us "Life-Member ship Certificates." So now, with A. I. and Ernest Root there are four. Who will be the next? "Who will stand with us?" and help to make the Association successful and permanent.

The New Factory of G. B. Lewis Company, of Watertown, Wis., to replace the one burned up last Spring, is now complete. It is a frame building, three stories and basement high, 60 feet wide, 130 feet in length, and contains 26,000 square feet of floor room. Over 250,000 feet of lumber was used in its construction. It is run by both steam and water-power, and all the machinery has the latest improvements. We congratulate the firm upon its new establishment, the capacity of which is more than double that of the old one.

Much Ignorance exists concerning Foul-Brood. We have received several inquiries concerning it, and many samples have been sent to us for inspection and decision as to whether they contained the disease or not. Some contained chilled brood; others had dead brood; and one had no brood at all, as is noted on page 820 of this issue of the BEE JOURNAL.

As this question concerns very many bee-keepers, we have devoted four pages of this paper to a descriptive article of the disease from the pen of Mr. D. A. Jones. It is the one officially printed by the Canadian Government, in connection with the Law, passed by its Parliament, for the suppression of that dire disease. This, added to the Law itself, and an article from Mr. Wm. McEvoy, the official Inspector, which we published in last week's Journal, will, no doubt, satisfy our friend Pringle, President of the Ontario Bee-Keepers' Association, that we are willing-and even anxious -that every bee-keeper may be well posted concerning the disease; and if found to be in possession of sufficient information to cure it-when such cure is possible-or else to utterly wipe out its existence by fire, when necessary.

No samples of the disease should ever be sent in the mails, or even by express, for it is fraught with danger of spreading the disease. It is also quite unnecessary; for any one who has common intelligence can readily detect it, after perusing the articles which we have presented in the BEE JOURNAL during the past month, on the subject.

Two Numbers More will end the present Volume of the BEE JOURNAL. Next year we shall change the form somewhatgiving two columns to the page, but it will have double the number of pages that it now contains-making 1664 pages for the year. It will also be printed with new type, and an entire new dress. This will add considerable expense and labor, but it will be "a daisy." Although the Volume for the year 1891 will be as thick as Webster's Unabridged Dictionary-it will be supplied for a single dollar! This will be the most wonderful journalistic accomplishment in the apicultural World, eclipsing all others! The AMERICAN BEE JOURNAL is the only weekly bee-periodical in America, and the largest one in the World!

Brother Root has our thanks for the following very kind allusion in *Gleanings* for Dec. 1, 1890:

On the first of next year the old American Bee Journal is to change its size to about that of these pages, and each number will contain 32 pages. For a weekly bee-journal this is a big undertaking; but Newman & Son are equal to the task.

Supply Dealers, before issuing their Catalogues for next season, should write to us for terms on the Globe Bee-Veil. We have sold over 1,200 within the past year. They give universal satisfaction.

GLEAMS OF NEWS.

Odd Notions About Bees .-Here are some of them, as enumerated by an exchange:

It is an old English notion that a quarrelsome family get no honey, keep as many bees as they may. Bees also will not thrive if they are stolen. On the contrary, they will pine and die on account of the crime. In various sections, it is regarded crime. In various sections, it is regarded as an exceedingly unlucky transaction to sell them for money, but they may be bartered without objection. They can be traded at will, but to be "guilty of selling them is a grievous omen, indeed, than which nothing can be more dreadful." A bushel of corn was formerly covidered. which nothing can be more dreadful." A bushel of corn was formerly considered a fair equivalent for a swarm, or a small pig might be taken in exchange. The idea of bartering bees is not an alien one in New

There are scores of superstitions and notions concerning the sympathy of bees in human troubles, especially in connection with death. The entrance of a bee into a cottage is in large numbers of districts looked upon as an infallible sign of death. Swarming on dead wood is equally ominous. Informing bees of a death in the family is a custom still practiced in various sections of England by the common people. The formalities in making the announcement are executed with the greatest precision, for fear of giving offense to the bees. here are scores of superstitions and

A messenger has been known to have been despatched from a funeral cortege, while on the way to the grave, to inform the bees on the way to the grave, to inform the bees of the household sorrow, which had been forgotten at first, and in the way of atonement for the neglect, wine and honey were placed in front of the hives. In some localities even this limit is exceeded. On the occasion of death in the family, the apiaries are decorated with crape, and the inmates invited to the funeral.

A Laughable Bee-Yarn was illustrated last week in that "comic" periodical called "the Judge." We enjoyed a hearty laugh over it, and thinking that our readers might do the same, we give a description of its comical pictures, so that any who have "the blues" may also laugh and enjoy the fun with us! Here it is:

A milk-wagon stops at the cottage gate, and the driver hastens to the door, where he finds an ordinary pitcher to receive the usual daily supply of milk for the family. He measures out a quart of the "lacteal fluid," pours it into the pitcher, and speedily departs.

One of the "little busy bees" was out early on that Summer morning, and espying the pitcher, concluded to inspect its contents. Before doing so, the bee circled around it, perchance to admire its floral exterior.

"Tabby," from the fence-top, saw the milk deposited there, and contemplating a raid upon the defenseless pitcher, said to herself: "Now, there's a treat for me!" Cautiously she advanced towards it, and then discovered the bee flying around the coveted treasure. Looking about on all sides for a moment, to be sure that, as a to any addresses. Ten for \$7.50.

thief, she was not observed by any one, she lost sight of the bee, and wondering at its sudden disappearance, said: "Where did that bee go?

Feeling sure now that she was unobserved, she thrust her head into the pitcher, which, however, was none too large to accommodate it, and lapped up the tempting fluid to her heart's content, exclaiming: "Oh! but that's good!"

The bee, on its inspecting tour inside the pitcher, was taken by surprise, and finding itself in close quarters, asserted its rights with pointed arguments for more room.

Tabby, feeling something sharp, exclaimed: "Oh! but there's pins in it!" Her head began to feel funny, but she concluded to take another drink before abandoning the feast-but she found "more pins in it !" Attempting to leave, she found that the pitcher had become too small to allow her to do so, and the pain increasing, she cries out : "Great rats ! I can't get my head out !"

Then she rolled over and over in agony, and spilled all the milk that was left, but her head was still confined in that terrible pitcher! She found more "pins," and experienced more pain!

She started to run, but not being able to see where she was going, she ran with full force against the stone wall of the cellar, and, with a "bang," the pitcher was smashed into scores of pieces, liberating her swollen and aching head (as well as the now poor frightened bee) from that temporary prison !

Now, Tabby sat down amid the fragments to contemplate the disaster. Looking up she discovered the bee just taking "There's that wing, and ejaculated: blamed bee !" And if she could have caught it, there would have been one less bee in the world!

We Congratulate Brother Root upon the fact that Gleanings has reached, and even passed, the ten thousand circulation, which it set out to do some months ago. Gleanings richly deserves this mark of public favor, for it is beautifully printed and carefully edited. If the reader desires to take another bee-periodical besides the AMERICAN BEE JOURNAL, we shall be pleased to send it and Gleanings for \$1.75 a year, or both these and the ILLUSTRATED HOME JOURNAL for \$2.35. This is a rare op portunity to secure three good periodicals for about the regular price of two.

Those Who Have any honey to dispose of should use the Honey Almanac as a salesman. We have a few left for this year, and offer them at one-third price. See page 831 of this paper.

Clubs of 5 New Subscriptions for \$4.00,

Some Questions.

What is a Nucleus?

Will you please inform me what a nucleus is ! Prairie du Chien, Wis., Dec. 5, 1890.

[Certainly. A nucleus is a miniaturecolony of bees, which may be increased to a full colony by careful management. The plural is "nuclei." These small colonies usually consist of one or two frames of comb with a queen (or a queen-cell, if tobe used for queen-rearing), and a few hundreds of bees .- Ep.]

Wintering Bees.

1. When is the proper time to put bees into the cellar? 2. Should they be left out as long as the weather will permit them to fly every few days? 3. Would it be right to take bees from a cellar in the middle of the Winter, if the weather would permit them to fly ? 4. Is it best to remove the bottom-boards when in the cellar ? Bangor, Iowa. Novice.

[1. In this latitude they should be prepared to be put into the cellar in the latter part of November-then, when it turns cold and shows signs of Winter setting in, put them into the cellar.

2. Yes.

3. Yes : many do so.

4. Yes, if they have loose bottom-boards. ED.]

Queenlessness.

I send you a piece of comb. Will you please tell me if it contains foul-brood. I took it from a colony that I killed on Nov. 2. This colony was wormy, with about a pint of bees in it, mostly drones, and not a queen among them. Will you please tell me what was wrong with the colony, and will any danger arise if the honey from this colony is fed to the healthy bees? I have 15 colonies that are in pretty good condition for the Winter. There was but a small surplus of honey this year.

Galena, Ills. Chas. Knautz.

[It was simply a case of queenlessness. The moths had been at work some, but not enough to cause trouble. There was no brood in the sample sent, and "foul-brood" was therefore impossible. In fact, it contained only a few cells of honey, and some bee-bread. There is nothing "wrong" with the honey, except its color.-ED.]

Convention Notices.

The 8th semi-annual meeting of the Susque-anna County Bee-Keepers' Association will be held t Montrose, Pa., on Thursday, May 7, 1891. H. M. SEELEY, Sec.

The Carolina Bee-Keepers' Association, will hold the last session of 1890 in the Town Hall, Pineville, N. C. Dec. 18, 19. A good programme. All who feel an interest in modern bee-culture are cordially invited. Bring or send a full report of the season. Entertainment free.

(Other papers please copy.)

K. P. LYLES, Sec., Derita, N. C.

The Annual Meeting of the Northern Illinois Bee-Keepers' Association, will be held in the Supervisor's Room of the Court House, at Rockford, Illison Dec. 16, 17, 1891. The President has a good Programme in course of preparation.

D. A. FULLER, Sec.

The Apiarian Agnostic.

Written for the American Bee Journal BY REV. W. F. CLARKE.

I do not know why I should be Thrust forth to let the public see How great is my stupidity About "the little busy bee."

What I don't know about this theme Would fill of paper many a ream, But I will state a few details Concerning which my knowledge fails.

I do not know the proper space Apart the frames of comb to place; Nor whether for the winternest Cellars or out-door hives are best.

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do not know if seasons bad Will from henceforward make us sad, Or whether a large honey-flow Again into our hives will go.

I do not know why prices fail When little honey is for sale, Nor how to make the market stay So firm that bee-keeping will pay.

I don't know how to fix things so Crowds will to bee-conventions go, Lured by cheap fares and tempting rates, Those usually resistless baits.

I don't know whether any more Journals of apiarian lore Are needed to diffuse the light Which else were hidden out of sight.

I don't know whether bees can tell When to dethrone their queens so well, That we may safely put our trust In their forethought as wise and just.

I don't know how I can prevent
A field of limited extent
From being overstocked with bees
While the rule holds: "Go as you please."

I do not know how to prevent Brace-combs of troublesome extent, Nor do I know of any plant To raise where honey-flows are scant.

I don't know whether, as some claim, A fixed excels a standing frame; I know no hive of any form, From which bees will not send a swarm.

I don't know if a time will be When bee-keepers will come to see Stamped on a single theory Exactitude and certainty.

And yet I know so much, it took, To hold it all, a good-sized book, And on a single theme, I penned A series, it was hard to end.

44 How doth the little busy bee?"
I find a problem hard for me,
I know so little, yet so much,
I hardly dare the task to touch.

And so, I do not know but what My tether's length I now have got, I don't know but I'd better "stop," And close the Miller knowledge shop! Guelph, Ont.

The "Farm-Poultry" is a 20-page monthly, published in Boston, at 50 cents per year. It is issued with a colored cover and is finely illustrated throughout.

We have arranged to club the American Bee Journal with the Farm-Poultry at \$1.35 per year for the two. Or with the Illustrated Home Journal at \$1.75 for the three.

QUERIES REPLIES.

Should we allow Rats and Mice in a Bee-Cellar?

Written for the American Bee Journal

QUERY 742.—I have a cellar in which I wish to winter my bees, but it is badly infested with rats and mice. The temperature seldom goes to the freezing-point. How will it do to place wire-screens over the hive entrances, and over the tops of the frames, and then pile them up, breakjoint fashion, with about one foot space between the hives, and leave the covers off?—G. B.

I should not dare to confine the bees to their hives.—R. L. TAYLOR.

It will do; but the rats will probably disturb the bees some.—DADANT & SON.

I have no experience in cellar wintering, and cannot advise.—M. Mahin.

A piece of perforated zinc placed over the entrance will be a protection from mice. I do not think that it is advisable to take the covers off.—P. L. VIALLON.

Perhaps that will do. I have never tried it. But I should fear the confinement. I would try and kill the vermin. Poison them.—EUGENE SECOR.

It will do very well; but it would be better to make the cellar rat and mouse proof. Would this be very difficult?—A. J. COOK.

Your cellar will do very well, and with wire-screens you may be able to ward off the rats and mice, but I would advise an exterminating war against them with traps or suitable poison.—J. P. H. Brown.

It will do to place screen of large mesh over the entrance. But I should prefer the rats and mice as numerous as bees in the hive rather than leave the frames open on top with nothing over them but wirescreen.—H. D. Cutting.

Would not do it. The rats and mice will annoy the bees. The bees go to the screens to get out, and a general tumult will result. Dispose of the rats and mice, or keep the bees out of the cellar.—G. M. DOOLITTLE.

I would not do so. The numerous rats and mice will disturb the bees, even if they cannot get at them. Kill them off, or close them all out of your cellar with mortar.—James Heddon.

All right, except a strip of perforated zinc for the entrance would be preferable; that is, such zinc with perforations the size used as drone and queen excluders.—J. M. Hambaugh.

Do not put any screens over the entrances, but have them so narrow that the mice cannot get into the hives. Mice do not injure bees, except by crawling into the hives and building nests in the center of the brood-nest. Bar them out, and there will be no trouble from them.—J. E. Pond.

I should think that the easiest way out of your dilemma would be to kill the rats and mice. Another thing you should do is to get some good cement and small rock and plaster up every hole and crevice. I have much more faith in exterminating the pests than, in wire-screens.—C. H. DIBBERN.

If I understand you rightly, you would have air at the top and bottom. That is pretty airy. If I should have screens on top, I think that I would close the entrances

tight. Perhaps it is better to leave the covers on, and screens at the entrances. Use coarse screens about 3 meshes to the inch, so that the bees can go through, but not mice.—C. C. MILLER.

Would not advise you to use wire-screens over the entrances, or over the top of the hive, unless covered by a cushion of some kind. The entrances had better be contracted to 3% of an inch opening by tacking on strips of tin on front of the hive to keep out mice. A 3% inch entrance, the full width of the hive, had better be left open.—G. L. TINKER.

Rid your cellar of vermin. A good Tabby with an interesting family, and a neighboring Tom, would be far cheaper kept than rats and mice. Catch them in traps; put potash in their runs to make their feet sore, and if you have kept food for them in barrels, fill them with water, and they will jump in as usual, and be drowned. No excuse for rats and mice; who would tolerate such a cellar !—Mrs. L. Harrison.

I am not sure that bees do as well entirely closed in the hives as when they can feel free to leave the hive; it is not so much a desire to leave the hive that worries them, as their natural dread of being imprisoned. They will sometimes do well fastened up as you propose, for I have tried it. But why not leave a small passageway through the wire cloth at the entrance.—G. W. Demarke.

Such a cellar would be very undesirable as a winter repository for bees. The vermin would annoy the bees, even if they did not get at the honey and combs. The rats and mice can be kept out by using plaster and broken glass. Those which are there in hiding can be caught in traps. Bees dislike to feel that they are prisoners, and for that reason the wire-screens would be unsatisfactory. The ventilation you propose, would be much like having a one-story house with the front door open, and the sky-light in the roof wide open too. It would be very uncomfortable to say the least. Either keep on the covers or close the entrances.—The Editor.

Frame Covering for Winter.

What kind of covering, if any, should be used on top of the frames besides the cushion, in preparing bees for Winter? Is the duck used for feeders, etc., too close when put all over the frames tightly, with no corners turned up, to let the moisture from the bees to pass up through?

the bees to pass up through?
Fowler, O. H. D. BARBER.

[Perhaps the best thing to use for covering the frames, is burlap hemmed at the edges. Under this put some sticks across the frames, or use Hill's device to allow the bees to pass from one comb to another. Over this put a chaff-cushion made a little larger than the inside of the hive, so that it will tuck down snugly all around to prevent a draft, and absorb the moisture arising from the cluster.—Ed.]

Free Trial Trip subscriptions are coming in quite rapidly. We thank our friends for this new illustration of their personal interest in the Bre Journal. We want thousands to read it for a few weeks who did not know of its existence. Do not be afraid of sending too many names. Let us have the name and address of every person who keeps bees in America.

CORRESPONDENCE

FOUL-BROOD.

Cause of Disease-Management and Cure.

BY D. A. JONES.

This disease has baffled the skill of the bee-keepers for a great many years; it has destroyed thousand upon thousands of colonies, both in Europe and America; whole apiaries have been swept away, and the fond hopes of many bee-keepers have been blasted by its ravages. This disease is known to have existed in America for more than half a century. The late Mr. Quinby and many others knew of its existence to their sorrow.

Over fifty years ago many important facts in connection with the disease were learned and made known by Mr. Quinby, through his untiring efforts to cure the disease; in fact, he had about become its master, by the starvation plan, we believe, before any great efforts were taken on the part of others to stay its ravages. Burning and burying have been resorted to, and to those who have no better means at hand by which a cure can be effected, they had better take either of these, as the great danger of its spreading to other apiaries, or to bees in the woods. which might keep the disease lingering about in a locality for years, is too great to run any risk.

Much has been written and said on the matter. Our esteemed friend, Mr. C. F. Muth, of Cincinnati, the great honey-king of the Southwest, has written a little book on the disease, and its cure by the use of salicylic acid. Mr. Frank Cheshire, of London, England, believes he has made some important discoveries of late by the use of the microscope. Great credit is due Mr. Cheshire for the untiring efforts he has manifested in that direction, and should he accomplish what he anticipates, the bee-keepers of the world will owe him a debt of gratitude which they can never fully repay.

I feel confident that the efforts that are being put forth by so many at the present time will, sooner or later, find a cure that will be more easily performed than any yet known. I should like to see our great American authority, Prof. A. J. Cook, of Lansing, Mich., give the matter some attention; we all feel proud of his discoveries, being fully assured that he is less liable to err in his experiments than many others.

The disease seems to be pretty well

and the loss sustained every year by its ravages will warrant our scientists in giving the matter all the attention that is possible. There have been various opinions expressed as to its origin, some believing that it was imported into this country, and that cases always originate from the imported disease; others believe that it can and does originate in this country; but this mater will doubtless be cleared up in time. Each party appears to be able to prove pretty conclusively that they are right-probably they both That it existed here many years are. before any importation of Italian bees was made, is beyond doubt. In some places there have been laws enacted to prevent its spread similar in character to the Act we now have, and commissioners or inspectors appointed to search out the disease, and see that it is either cured, or the bees and combs. etc., destroyed.

There has been a great deal of advice given about the cure and management of the disease, and many of those who have taken the trouble to give such advice, deserve much credit for the interest they have manifested in studying up the disease, and assisting their less fortunate brother bee-keepers. There are varied opinions regard ing the spread of the disease; some think it is a disease of the honey, or rather that is the way in which the disease is usually spread; others believing that it is carried on the bodies and feet of the bees; some even go so far as to say that it may be carried on the body, feet, proboscis and other parts of the bees, and thus conveyed to the flowers of the fields, so that other bees visiting these flowers carry the disease home to their own hives.

That diseased colonies can carry the disease to the flowers seems scarcely probable to me. Once I knew of over 100 colonies of bees badly affected with foul-brood, with another apiary not a mile away, and although the bees from the diseased apiary gathered honey from the flowers in the same fields, no disease ever appeared in the other apiary. If bees carry the disease on their bodies, it seems very strange that, in all my experiments, I have never been able to detect any case that originated from the disease having been carried in that way.

Some recommend starving or fasting as a cure, and say "24 hours or 48 hours, or sometimes two or three days is sufficient." Those who attempt its cure in this manner are sure to meet with failure, as the time required for fasting does not depend so much on the number of hours or days as it does upon the fact that all the honey in their abdomens is consumed; if that formed, and assumed the general apscattered through Europe and America, could be accomplished in two hours by pearance of the bee, say two or three

any means it would be sufficient, but. on the contrary, it may be six or eight days, and I have sometimes had them fasting even a longer time. I wonder if some genius cannot get out a patent right on some kind of a small press to make them discharge all their honey from their honey-sacs.

The fasting system has proved to be a most successful one with me, as also with many others. There is one beauty about it, viz. : it requires no medicine or drugs of any kind, and is within the reach of every person. Another advantage is, that if there is no brood in the hives, or if you do not wish to save the brood, the cure can be effected with but one hour or two hours' labor to each colony.

If the directions contained in this communication are followed carefully. no person need ever be troubled much with the disease, as the different appearances of dead brood, dying from various causes, are carefully and ex-plicitly explained. I do not believe that the fasting system is the only one by which foul-brood can be cured, thinking that it may also be cured by other means, but thus far this appears to be the most simple and the surest way for the novice.

Chilled Brood .- Chilled brood is frequently caused by the bees moving off the brood, and not keeping it sufficiently warm. On cold nights, if the entrances of the hives are left open so that the atmosphere inside gets too cold, the bees contract their cluster, thus leaving a portion of the brood uncovered, which, not being protected, becomes chilled and dies. Sometimes bees swarm out in the spring, and leave the brood to die; this is very often caused by the bees having too much space, and not being able to keep up the necessary amount of heat to carry on breeding, become discouraged, and leave with the expectation of bettering their condition. I have known it to occur as the result of spring dwindling, and the bees being unable to cover their brood, swarm out. It may also arise from the bees having consumed all their stores, and seeing starvation staring them in the face. they leave with the object of improving their condition.

There are many other causes by which brood becomes chilled and dies. The appearance of this chilled brood, however, differs materially from that of foul-brood; the larva is frequently found dead in all stages, from the egg to the perfectly formed bee just ready to gnaw out, while foul-brood usually operates on the larva when it is almost fully grown, and should it have lived sufficiently long to have had the wings days before emerging, then they just ready to emerge are found dead it was affected, so much so that the appear to be old and strong enough to resist the disease, or, in other words, if they had been fed any of the diseased food, or food containing fungi or spores of foul-brood, they would have died and assumed the foul-broody appearance before they had become so fully developed.

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Now, in this chilled brood will be found fully developed bees almost ready to leave their cells, and the skin of the larvæ seems to retain more perfectly its shape and appearance, and when pricked with a sharp instrument, the larvæ will usually be found to contain a watery substance quite unlike foul-brood. Another proof whereby chilled brood may be detected is, that bees almost fully developed are found dead in the cells, retaining their shape and appearance, never sink back into that brown, ropy matter which so plainly marks pure foul-brood.

Neglected Brood .- Neglected deserted or starved brood resembles chilled brood very much in many respects, especially as it is found in all stages, from the egg to the perfect bee, but it differs from chilled brood in one respect very markedly; the bees after consuming all the honey in the cells, often remove all the food from the larvæ, giving it a very dry appearance, and sometimes they even bite or gnaw upon the larvæ, not being satisfied with taking their food from their cells, thus making holes in the bodies, and giving many of the larger larvæ a dry, shrivelled appearance. This may all occur before the bees desert the hive or die; and I have found all the brood dead except that just ready to leave

Over-heated Brood.—This is called by some scaled brood, by others suffocated or smothered brood, and is also known by various other names. It is usually caused by the hive being closed too tightly in hot weather, not allowing the bees sufficient ventilation; or in shipping, by not giving the bees suffi-cient ventilation, the bees become excited, and in trying to secure all the fresh air possible crowd each other to such an extent about the entrance or air passages that it becomes choked. I have known colonies to smother in a very short time. After the bees were smothered, the great heat which they produced seemed to have over-heated some of the brood, and in spite of every effort to save it by placing it in other colonies, some of it would die.

This dead brood, on examination, will be found to resemble chilled brood somewhat, and if allowed to remain in the cells, it becomes putrid, and smells very much like pure foul-brood. It differs from chilled brood in this re-

in the cells, while the heating or smothering does not seem to affect the older larvæ to the same extent. I have found bees emerging one or two days after that seemed to have survived. When bees are smothered as above, from their over-heated condition, the moisture arising from their efforts, becoming condensed on the combs, make them very damp. This moisture seems to extend to the larvæ and brood, accounting in a measure for the rapid decomposition of the larvæ, and the greater disagreeableness of smell, being nearly as offensive an odor as that arising from foul-brood.

Drowned Brood .- This usually occurs where colonies are placed on low ground, and when a sudden rise in the water overflows the bank of the stream and the apiary is submerged. water also rises up into the hives among the combs, and a large quantity of the brood is submerged and drowned. This drowned brood seems to differ some from the ordinary chilled brood, but resembles smothered or over-heated brood more, being damp and soft in appearance, caused by the ground, hives and combs being so moist. If this dead brood is not removed, it produces a much more loathsome smell than chilled brood, becoming more putrid, and taking much longer time to dry up in the cells. Should the weather be very warm, damp and muggy, the drowned brood sometimes turns into a mild type of foul-brood, or into what looks and acts so much like it that it must be at least a first cousin to it.

I will relate a circumstance which is one of the number that leads me to believe that foul-brood may be sometimes produced in the apiary, and not always imported, as some of our friends honestly imagine. A man once had 100 colonies in an isolated locality, with no other apiary within miles of it, and no bees in the woods, as far as known; there were no signs of foulbrood in his apiary all Summer, though the colonies were carefully examined once or twice each week.

In August or September a flood came and drowned a large portion of the brood in some of the hives, 10 or 15 of them were so much injured by the flood, that the bees did not remove the dead brood, and in most of the colonies nearly all the combs were full of brood. The weather, after the flood, was very warm and muggy, the atmosphere very oppressive for days, with frequent showers. All the colonies from which the dead brood was removed came out all right, while the 10 or 15, from which it was not removed, became very badly diseased; they spect; that while in chilled brood bees attempted to rear brood, but some of if ever, does to any extent; thus the

odor arising from the brood dying was very unpleasant, When all the dead brood was removed, the disease continued, and it appeared that the spores of the disease were in the honey, as many of the larvæ were found dead. Each time brood was reared the disease continued to increase, in spite of salicylic acid and other treatments then in vogue. Honey from the combs, when given to a healthy colony, produced the disease.

It appeared in every respect like foul-brood, and I feel satisfied that it was. Now, if it did not emanate from the decaying brood, which was a mass of corruption, where did it come from? The stench and spores arising from it, seem to have diseased the honey, and when the honey was fed to the larvæ, it affected them. We believe that some diseases arise de novo, or spontaneously, while others arise from germs or spores which find in decaying matter a favorable opportunity for multiplication. In this case, everything was favorable for their development. If I recollect aright, cholera always starts in the valley of the Ganges, because it is a most favorable spot for its propagation.

Dead Brood-What Some Call a Mild Type of Foul-Brood.—This resembles foul-brood more closely than any of the others, because there appears to be no apparent cause for the death. Larvæ are found to die in almost all stages, from the half-grown larva up to the imago, or fully developed bee. Now, in appearance, this seems to resemble chilled brood, so far as its dryness is concerned; it also more closely retains its shape. The larva does not flatten out and recede to the back of the cell; the skin of the larva shows much less inclination to wrinkle, and it retains its size and shape more perfectly. If the larva is pierced with the point of a very sharp instrument, it will be found to contain a dark, inky-like, watery substance. The bees usually remove this sooner or later. Sometimes, however, they allow it to dry up considerably before doing so; the older larva that is almost ready to emerge, may be found by a slight sinking of the capping; but the capping does not sink as much as the capping of a foul-broody cell, and if, with the point of a sharp knife, you attempt to remove it, you will find it much stronger than that of a genuine foulbroody cell.

There are several suppositions as to the cause of this, one of which is, that the larva lives longer, and spins the cocoon more perfectly under the capping before it dies, while the one diseased with genuine foul-brood seldom,

capping of the foul-broody cells will be found to be more concave, and more easily removed. Some imagine that the foul odor from the matter therein affect the capping, and makes it softer and more easy of removal. I have never found this disease to increase as rapidly as the genuine foul-brood; in fact, I have known it to continue in a hive for two seasons, with only a proportion (not exceeding onefourth) of the brood becoming affected. I can assign no reason for the factbut I have never known it to appear in any other than a hybrid colony.

Until the disease becomes quite bad, it does not appear to affect their honey-gathering qualities, but it seems to have a discouraging effect on their breeding propensities, as they exhibit less energy in that direction when so affected. Now the manner in which this brood appears to die, and all the appearances and circumstances attending its death, lead a great many to imagine it to be genuine foul-brood. It does not spread as rapidly, nor is it as contagious as the genuine foul-brood, usually confining itself to the hives in which it originated. It always lacks one of the true tests of real foulbrood, viz.: the brown, coffee-colored, ropy matter found in foul-brood cells. But it is quite usual to find cells capped over containing the dead larvæ which are punctured with small holes similar to that of foul-brood.

Dead Larvæ or Brood Found in Colonies after Shipment.-In bees that have been shipped from one point to another we frequently find, a few days after, cells here and there among the brood containing dead larvæ or brood just ready to emerge. I have known this to occur in shipping in the Spring, Summer and Fall, but more frequently in the Spring; and have been asked by experienced bee-keepers why dead larvæ were found in cells at times, even for weeks after their arrival Some attribute it to the excitement of the bees while in transit, neglecting to feed the larvæ at a very critical period in their development; others attribute it to jarring, and the general disorganizing of the staff of the hive, and to various other causes. looks very much like foul-brood sometimes, but it may be known and distinguished from it by the larva retaining its shape and its appearance; also by finding old and matured larvæ.

I once sent a shipment of 50 colonies of bees to one of the best beekeepers in Canada, one who had much experience, and one who was a good judge of foul-brood, when, in looking them over, he detected what he thought to be the first symptoms of had been taken from foul-broody colo-foul-brood; in two colonies the appear-nies with like effect.

ance was more marked. These two he returned to me. I examined them closely day after day for weeks, as also did my men, and we satisfied ourselves that it was not foul-brood, as the colonies increased, we removed all the dead larvæ, and none of it ever returned or turned to that brown ropy matter which must be found where foul-brood exists. There are many parcels sent me every year to examine, supposed by the senders to be foulbrood, but while some prove to be the genuine article, many are not. Whether it is or not, is usually told by the circumstances attending it. In exchanging from one hive to another, combs are sometimes taken from the hives containing chilled, or perhaps some of this dead brood caused by shipping, and placed in other hives. Should this dead brood be left, or not removed by the bees, it is therefore sometimes mistaken for foul-brood.

Foul-Brood.-Foul-brood is a disease in the honey, or rather, that is where it appears to lurk. It seems that the spores escape from the cells containing the decaying larvæ, lodge in the honey, and by that means, to a very great extent, it continues its ravages, or, in other words, the contagion is spread. It is true that combs containing foulbrood cannot be used, at least I have never been able to use them; no amount of doctoring that I could do would disinfect them. It appears that the combs are diseased in several ways; the spores remaining in the honey, and drying up in the cells, also in the pollen and in the wax as well. Those cells that have contained foulbrood always appear to have spores left in them, and if the dead larvæ have not been removed, they dry up in the bottom of the cell, and are sometimes scarcely discernible without the aid of a microscope. I have failed to purify these, although I have made repeated efforts to do so. I have not, however, given up, as I hope to be able to disinfect combs without resorting to destruction, but as yet heat is the only thing I have found which will destroy the germs by which the disease is generated.

I have taken honey from diseased colonies, have frozen it in an ice-cream freezer for days, and subjected it to the lowest temperature that could be obtained in that way, then made a nucleus, and fed it on this frozen honey. The result was that a very large number of the larvæ first capped died of foul-brood, thus proving conclusively that subjecting the honey to a low temperature had no effect. Again, I made repeated efforts by freezing both honey and comb which

Once I had subjected honey-combs to a temperature of 35° below zero. allowing them to remain frozen all Winter. The following Spring, when one of these combs was placed for experimental purposes in the nucleus, it gave to it the disease, as also did the honey fed it.

After repeated experiments, I am fully convinced that no amount of frost will kill the spores, and I believe that they lie dormant during frost, and when thawed out, lose none of their destructive qualities. It is generally believed that severe frost will kill the disease, but let me warn beekeepers never to attempt its cure by that method. Some of the honey which had been frozen along with the comb in the experiments I have mentioned, after having been boiled a few minutes, failed to transmit the disease. Thus, after many trials, I proved beyond a doubt, that heat will kill the germs by which the disease is generated, and that foul-broody honey, after having been boiled, can be fed with impunity to any colony.

There are some who, I believe, honestly imagine that the disease is conveyed by the bees carrying it on their bodies, feet, proboscis, or other parts; now, that appears to be not the usual way at least. It may be that after a colony is very badly infected, some spores may be conveyed in this manner, but I have never known a case which could satisfy me that that was the cause of its origin, after hundreds of experiments to test the matter most thoroughly, to describe which minutely would require a good-sized volume.

If the bees carry the disease about their bodies in any way, how is it that after innumerable experiments I have proved most conclusively that as soon as the honey is consumed in their abdomens the disease is gone? I have taken scores of the worst affected colonies I could find, and placing them in boxes with wire-cloth sides for ventilating purposes, have set them away in a cool place, where they would cluster, the same in appearance as a swarm on a lamb, and if the place was sufficiently cool and damp, say the cellar for instance, they would remain in that dormant state with scarcely a visible motion, until the honey was consumed in their bodies.

As soon as this was accomplished, I have taken them out and shaken them down (like a swarm) on combs or foundation, and have fed them honey or syrup, after which, in a very short time, they set to work. If all this is done properly, the disease never returns, and how is it possible, if this disease remains attached to the bodies of the bees composing this cluster, that the germs would escape?" Surely, they would carry some into their new homes and start the disease afresh. This never occurs. Then, again, if the bees are shaken out of a foul-broody colony into a clean hive, and allowed to remain there until the honey is consumed in their bodies, the disease will never return; in other words, placing the bees in a new home without honey in their abdomens, may be looked upon as a sure cure.

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If one experiment, or even twenty, only had been tried to convince me on this point, I might yet doubt its effi-ciency, but when hundreds have proved that the disease will not return, it is conclusive evidence, to me at least.

I know of one gentleman who had a score or more colonies badly diseased with foul-brood early in the Spring, before there was any honey in the flowers. He shook all the bees out of each hive into clean hives filled with foundation; the weather was cold and unfavorable for drawing out the foundation, and it was a number of days before they made much progress in that direction, sufficient time at least to consume the honey in their abdomens; in fact, they had to be fed some considerable time before brood-rear-ing commenced. In not one instance did the disease re-appear.

Combs from a diseased colony frozen for three winters in succession, will produce the disease when placed in a healthy colony. Honey from a diseased colony may be kept for years, but when fed to a colony in a healthy state, it will transmit the disease. How is it that the disease will remain in the honey for years, and will not remain on the bees (if it has ever been there) for as many days? If the bees carry the disease in any other way excepting in the honey, how is it that, if you extract the honey from a foulbrood colony, and allow the bees to consume all the honey that remains in the cells, and that when they begin to show signs of hunger by removing them to a fasting box, a very much shorter period of fasting will suffice. If their abdomens are filled with honey before they are removed to the fasting box, they have to fast for a number of days before being put into a new hive.

Fasting .- The preparation of a colony of bees for fasting is very important, as it makes a marked difference whether they are queenless or not, also the length of time they have been queenless. A colony made queenless and placed in a box to fast would become agitated, and would not all fast alike; some would starve to death, while others that were less excitable, would not have the honey in their be used in brood-rearing) that colony a few bees, say a hundred or so, will

abdomens consumed, but if the colony had their queen with them, they would cluster and remain perfectly quiet.

If a colony has been made queenless, and allowed to remain so for a few days, they may be placed in a fasting box without the danger before mentioned, so that it is necessary for the bees either to have a queen, or to have remained queenless for several days. Then again, if they are put in a warm place, some of them appear to become excited, and anxious to get out and continue to rush about in an excited manner, until they have consumed the honey in their abdomens, and die from starvation, labor and worry, while those that remained quiet would yet retain almost all they had eaten; thus a cool place is necessary.

Darkness is another very important thing, because if the colony is placed in the sunshine, or where it is light, they become as much excited as in a warm place, and seem determined to get out, while if placed in a dark cellar or some other suitable place, they cluster as naturally as a swarm. If the temperature is not above 55°, they will remain in this cluster so quietly that it is with difficulty you can discern a movement. They will remain in this quiet state from 4 to 8 days, according to the amount of honey they take with them, and according to the temperature of the place. I have had instances where they have remained over 8 days, while testing the length of time they

A similar colony placed in a warm repository, would consume their honey in 3 or 4 days, while the one placed in the sun, or light, would worry them-selves, so that 2 days or less would sometimes be sufficient to exhaust many of their number. They should be fasted alike, or as nearly so as possible. Before removing them to the fasting box from their hive, they should be smoked and drummed, and made to fill themselves with honey as nearly alike in quantity as possible. After this has been done, no time should be lost in removing them, for if allowed to remain a few minutes in the hive, many of them will replace the honey in the cells, so that while a portion of them would be filled with honey, others would have none, and consequently, could not be expected to fast as long as those whose honeysacs were filled.

Great care should be taken after they are placed in the fasting box with the sieve over it, that no bees from other hives are allowed to light on this sieve or screen, as I have known bees to pass honey through the screen, and should they give any of this honey to a

would also become diseased. I have never yet known the disease to be contracted by either queens or drones, although I have experimented largely in that direction, taking queens from foul-broody colonies and placing them in healthy colonies.

I was once informed by one of the best bee-keepers in the United States, that he had tried the experiment scores of times; that is, selling the queens out of healthy colonies, and replacing them with those from the worst affected foul-broody colonies, and in no instance did the disease appear in these hives, the apiary being 3 miles from the one in which the diseased colonies were. The gentleman had several beefarms. I do not mean to assert that the disease never has been carried by queens or drones, but I honestly believe that if it has ever been the case, that the honey taken with them had something to do with it.

Modus Operandi.—Having sufficiently described the disease so that the merest novice should be able to detect it, also why the various operations should be performed, it will now be in order to describe the process that we usually adopt which makes success certain every time. You must first have the necessary tools to operate with: A smoker and fasting box (or a hive with a screen to fit over the top).

With smoker in hand, go to the hive which you wish to operate on. If there is no brood in the hive, or if you do not care to save the brood, you then smoke and drum the bees until they all fill themselves with honey; as soon as they are filled, they must be shaken out into the box you intend them to occupy in fasting. A better way is to lift the hive off the stand and set the fasting box in its place; then, when the bees are shaken down into this box, those that take wing will come in more readily.

Place the combs in an empty hive, then by turning the hive upside down and striking it on the ground, the bees will pass up into the fasting box; when all the bees are in, place a wire-screen over the top, close the entrance, and carry them to some dark repository (a cellar if possible) setting the hive down and turning it over on its side; by this means what was formerly the top of the box becomes the side, and the bees will cluster on the upper side of the box, thus allowing the air to pass through the screen.

They may remain in this dark repository hanging in a cluster similar to a swarm until they show signs of hunger, which is easily perceived. As the food in the abdomen is gradually consumed, the cluster becomes smaller; bee from another colony (and it should the bodies of the bees also look smaller

fall to the bottom-board, crawling about in a slow, quiet manner, indi-cating their starving condition (if they are well-filled with honey when placed in the fasting box, they are likely to require from 4 to 6 days' fasting).

They may be removed, but if re-moved before all the honey is consumed in their abdomens, great difficulty is likely to arise. They must be watched very carefully (say 3 times a day after the third day) because after the honey in their abdomens is all consumed, they are liable to die very quickly. Take them out, have your hive prepared where you wish them to remain; place in it some combs, then shake the bees down in front, and allow them to run in just the same as you would a swarm. If there is no food in the combs, they should be fed, as they will be too weak to gather honey, but after being fed they will go to work the same as a swarm, in a few days, if the flow is good.

The combs should now be melted into wax, and the hive and frames boiled for 10 minutes to disinfect them. If there is any honey in the combs, it may be extracted and boiled for 10 minutes, when it will do for food, but a little water should be put into the honey before boiling (about one pound of water to five pounds of honey).

Should there be some brood in the combs, and you would prefer to save it, you should leave enough bees in the colony to take care of the brood; the queen should always be taken with the bees the first time. Then as soon as the brood hatches out of the combs. the bees must be shaken out into the fasting box and treated the same as the first lot.

Should you have a number of colonies diseased with foul-brood, it is better to go over all the hives, and put all the combs containing brood into hives by themselves; all others may be melted up at once. This will reduce the number of colonies considerably, making some which may be fasted at once, and then along as the brood hatches out, bees may be shaken from one or more colonies into the fasting box, and put through the same process; as soon as the combs are free from brood, they may be removed for treatment as prescribed. By continuing this process, one or two hundred colonies could be purified and put to work in clean hives in a few weeks, and all by one person, the only loss occurring being the labor required and time spent in fasting, which would otherwise be employed in gathering honey. When it is done between honey-flows, there will be no loss from Spring. Feed the syrup warm. the latter, but the operator must be

careful to see that the bees do not lack stores. It could also be done in the fall after the honey-flow is over; the bees must then be fed upon honey or sugar-syrup for wintering. - Canadian Bulletin, No. 33.

Beeton, Ont.

SUGAR SYRUP.

Is this as Good as Honey for Bees in Winter?

Written for the Mass. Ploughman BY G. A. STOCKWELL.

A writer on bees declares that the only proper food for bees in Winter is honey, and he makes sport of the fact that some bee-keepers take out all honey, and feed back sugar and water for the bees to live on during the Winter. He is sure that this practice is a "perversion of nature." If nature had its own way all the time, it would leave us often in the lurch. Nature. to serve man, must be restricted—guided—whether it concerns horses, cows or bees.

It has been proved often enough, to the loss of the bee-keeper, that although honey may be the natural food of bees in Summer and Winter, yet it has caused the destruction of many colonies of bees. In some seasons, some of the honey collected during the Summer is unfit for Winter food.

Owing to unusual weather-conditions, growth of plant and secretion of honey—the honey contains ingredients that produce diarrhea, and the destruction of colony, comb and brood is the result. It must be remembered that bees do not void excreta in the hive; if bees remain in the hive from November until April, the excreta must be retained during this time. It is supposed that only a minute variation in the food is needed to disturb this condition of the bee's body.

Therefore, it is not always safe to put faith in the natural food of bees; it may be poison to them. There is no doubt that granulated sugar is the best Winter food for bees. If honey sells for 25 cents a pound, and granulated sugar may be bought for 6 or 7 cents a pound, there is profit in exchanging one for the other.

The sugar is further reduced in cost by adding water. The proportion is 1 weight of water, added to the sugar, boiling-hot. If any bee-keeper is not sure that his bees have enough honey for the Winter, let them be given granulated sugar at once. Bees have been fed in this way in Mid-winter, and have been thus carried through until

Providence, R. I.

AN EPISODE.

My First Experience in the Introduction of Queen-Bees.

Written for the American Bee Journal BY M. D. FISHER.

In the year 1882, while a resident of -, my occupations the village of Fwere chiefly dentistry and apiculturedentistry as a livelihood, and apiculture as an amusement and recreation, and, perhaps, in time, a means of profit.

My bees, Italians, Holy Lands and Cyprians, were the progeny of firstclass queens. During this time I was a student of two text-books on apiculture, also a reader of the Bee-Keepers' Magazine, and, after a study of these works, I was, in my own estimation, a professional apiarist; an estimation which was not wholly without foundation, for it does not require a great length of time for me to intellectually digest the contents of a book.

Well, one day about the time of white clover bloom, I procured a few yards of mosquito netting, and a thick pair of sheepskin mittens, and went into my humble apiary (10 colonies) to show the native bee-men how to

multiply ten by three. After dividing, I concluded to let the queenless colonies rear their own queens from the brood which I had furnished them, with one exception. Among these was a colony of hand-some Italians with which I wished to test the profits of modern bee-keeping. I sent to New York for a queen, and in due time she arrived, and was pronounced "a daisy," although if she had been a cockroach, I should have introduced her with the same feeling of security regarding the future prosperity of the colony, for up to that time I had not seen specimens of either of these insects. The caged queen was put into the hive between two frames,

On the following day I again re-paired to my apiary with the intent of releasing "Her Majesty," but, as a precautionary measure against any possible danger, I took my bottle of perfume (a conspicuous article of my toilet) and perfumed some sweetened water, with which I sprayed both bees and queen most thoroughly, to give them the same scent, according to some high authority. This done, I drew out the tin slide to the cage, and let her in among the bees.

and allowed to remain 24 hours for

the purpose of becoming acquainted.

Did they receive her? I should think they did. She ran down into the hive out of sight. "Peep, peep!" What was that? "Rats, rats!" I exclaimed to myself. No, it could not be rats nor mice; it must be the queen that made the noise; it must be a signal of distress, so I quickly separated the large Quinby frames, and found her enveloped in a ball of bees as large as my fist.

Now, talk about magnificent bravery, for I had abandoned mittens and netting, and thrust my hand down and scooped up the whole ball, and flung them on the alighting board, liberated the queen, and re-caged her. Then my handkerchief I wiped the perspiration from my brow, for the horse that carried Phil Sheridan to Winchester, never perspired more than did I, after performing that difficult apicultural sleight-of-hand feat.

No. that was not the cause of her peeping. After giving the subject careful consideration, I came to this conclusion: The perfume being of an agreeable odor, the bees liked to smell of her, and she liked to smell of them.

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The peeping noise was not the signal of distress, but was her way of signifying her entire satisfaction with her surroundings. Acting on this hypothesis, I again released her, and not hearing from her again, I concluded she was all right, as she proved to be.

But this operation was destined to terminate in an accident to myself. It was a time when tight pants were in vogue, and one of the disappointed thousand, that I flung on the alighting board, managed to crawl up my pantaloon's leg, and after reaching a convenient point of my anatomy, just as I was stooping to pick up a tool that I had been using, the little rascal put in a plea of self-defense with such emphasis that my attention was at once attracted to its mode of operations. In fact, no member of the animal kingdom ever made a loftier ascension, unless it was the cow that jumped over the moon. To have dismantled in that thickly settled neighborhood, would have been held as inexcusable. even after a deliberate consideration of the circumstances, and therefore, like a plucky fellow, I shook him down on to the ground, and bore the pain without a murmur, not even asking the sympathy or tender ministrations of my wife.

Allen's Hill, N. Y.

THE PLACE.

What is the Best Location for an Apiary ?

Read at the S.W. Wisconsin Convention BY C. V. MAIN.

of Location, I will give you my idea of man who has his honey put up in new what I would consider a good locality. cans, with a bright, attractive label, the rest of this year free.

I would locate an apiary in the shade, but not so dense as to hinder the bees in their flight, yet just enough to prevent the direct rays of the sun from shining on the hives, which should also be protected from the north and west winds in the Spring. I would suggest that the ground be slightly sloping to the south or east, where the hives could have the sun in the early morning.

But before locating an apiary, we must look to the natural honey-producing plants, shrubs, or trees. If possible, locate near an ample cloverfield, as it will greatly benefit your honey-crop; and if you are fortunate enough to establish your apiary in close proximity to a buckwheat field, it will help out the Autumn honey-flow.

If I were looking for a place to locate, I would note the early pollen sources, as it is very important that the bees have plenty of pollen (and that early) to stimulate brood-rearing. No time in the year is so important as in the early Spring. It starts the bees to work, stops dwindling, keeps them busy, and prevents their robbing other hives.

The following trees are named as some of the most desirable from which to obtain pollen: Soft-maple, willow, elm, witch-hazel, alder and poplar, while there are a number of flowers that also furnish early pollen. If it can be done, I would settle near plenty of basswood, say within a mile.

Let me caution everyone to exercise care and judgment in selecting a location. Misfortunes and small crops may come to you, but with a little forethought, these may be somewhat averted.

Marietta, Wis.

STORING HONEY.

Where to Keep Honey in the Best Condition.

Written for the Pacific Rural Press BY S. L. WATKINS.

Too much cannot be said of the importance of proper caring for honey after it is taken from the hives. I am afraid that a great many producers do not give their surplus honey the attention that it requires, by proper ripening, and the grading and selection of packages for both comb and extracted honey.

One of the greatest secrets in the honey business is to have it thoroughly ripened before placing it upon the market. It does not pay to use second-hand pails and cans for packing As I have been assigned the subject and shipping extracted honey. The

will make 5 sales-where the man who has used old cans will make one.

All extracted honey should be graded. In our part of the State we have 3 different grades—the white, amber and dark—ranging in price from 1 to 5 cents per pound. Comb honey should also be graded into 2 or 3 different grades. After grading and scraping the propolis from the sec-tions, it should be put in section or shipping-crates, and kept in a warm honey-house.

Never, under any consideration, keep honey in a cellar, or even in a room where the temperature changes so much as to cause dampness to settle on the surface of anything. If you do, the aroma and exquisite taste of the honey is destroyed.

An old man once asked me why the honey obtained from bee-trees in the winter-time, was always superior to any honey he ever bought or had taken from hives. I told him the reason probably was, that the honey he bought in the stores, and that he had taken from the hives, was not as wellripened as that taken from the beetrees.

The most essential requisites for ripening honey are warmth and dryness; and this is especially necessary from the time the honey is stored in the hive, until it is fully ripened.

In Southern California they ripen their extracted honey in large tanks, holding from one to several thousand gallons, and in most cases the honey is ripened in the open air. A screen of some kind is fastened on the top to keep out bees and insects, and if I am correctly informed, they leave the honey in those tanks from 2 weeks to 2 months.

To an apiarist of small means, who has only a few colonies, and wishes to ripen his extracted honey, I would advise the purchase of a few stone crocks or jars, for they answer the purpose well. In storing comb-honey in a honey-house, be sure to keep it several inches above the floor, because in rainy and cold weather the honey seems to draw moisture, and the honey becomes thin and watery, and sometimes acquires a sour taste.

When you have finished canning all the extracted honey, have it so placed that the sun may shine on it as much as possible.

Grizzly Flat, Calif.

New Subscribers can have the BEE JOURNAL and the ILLUSTRATED HOME JOUR-NAL from now until the end of 1891 for \$1.35. This is a rare opportunity for clubbing two valuable periodicals for a slight advance upon the price of one, and getting

CONVENTION DIRECTORY.

Time and place of meeting.

1890. Dec. 16, 17.—Northern Illinois, at Rockford, Ills. D. A. Fuller, Sec., Cherry Valley, Ills.

Dec. 18, 19.—Carolina, at Pineville, N. C. N. P. Lyles, Sec., Derita, N. C.

Jan. 1, 2.—Michigan State, at Detroit, Mich. H. D. Cutting, Sec., Clinton, Mich.

May 7.—Susquehanna County, at Montrose, Pa. H. M. Seeley, Sec., Harford, Pa.

In order to have this table complete, Secretaries are requested to forward full particulars of the time and the place of each future meeting.—THE EDITOR.

North American Bee-Keepers' Association

PRESIDENT-P. H. Elwood. .. Starkville, N. Y. SECRETARY-C. P. Dadant Hamilton, Ills.

National Bee-Keepers' Union.

PRESIDENT-James Heddon . Dowagiac, Mich. SEC'Y AND MANAGER-T. G. Newman, Chicago.



Winter Covering.

How is it about the cover over the bees for wintering our doors? Are they to be on the hives, or taken off? Please answer through the Bee Journal. Barber, Wis. R. Tolebroten.

If you mean the hive-covers, leave them on, of course. There should also be a straw mat or cushion of chaff over the frames for absorbing the moisture arising from the cluster of bees, if you do not "pack" the hives with straw all around. Your question is too indefinite for an intelligent reply.-ED.]

Illinois State Fair.

As Mrs. L. Harrison was not very well posted, or probably made a mistake in giving all the honors to the Iowa exhibitors of bees and honey at the late State Fair. I would call her attention to the fact that I, a resident of Illinois, carried away some of the honors, among them a second premium on comb-honey; and so that you may see that Illinois was not entirely without honey, I will say that I obtained 900 pounds of comb-honey and 100 pounds of extracted-honey. My bees are in splendid condition for Winter.

AARON COPPIN. extracted-honey. M. condition for Winter. AARON COPPIN. Wenona, Ills.

[There, Sister Harrison, you were a little too previous. Illinois is redeemed, even if it is a second-rate (second premium) affair. -Ep.1

Excessive Swarming.

Will some of the many readers of the AMERICAN BEE JOURNAL tell me what to do to prevent bees from swarming too excessively. Last Summer, as a result of too much swarming, I obtained no comb-honey from my bees. If there is any pos-sible way to overcome this difficulty, I

shall be glad to know it. The hive I use is the 8-frame Wisconsin.

the 8-frame Wisconsin.

Being but a beginner in the art of beekeeping, and very anxious to learn, I will ask Mr. J. M. Hambaugh for his reason for shaking bees in front of the hive.

And now, Mr. Editor, in thanking your contributors for the many good and helpful things found in the BEE JOURNAL, may I ask them to be a little more explicit, and when writing give their explanations more in detail.

Montclair, Colo., Dec. 1, 1890.

Montclair, Colo., Dec. 1, 1890.

Not Discouraged.

The season of 1890 is over, and although I had but 5 swarms, and 600 pounds of surplus honey in one-pound sections from my 73 colonies of bees, I am not one bit discouraged, but anticipate far better results next season. My bees are still out-of-doors, having plenty of stores laid by for winter.

Edw. Marghleth.

Mt. Carroll, Ills., Nov. 28, 1890.

Missouri Statistics.

Being requested by the Secretary of the Missouri State Board of Agriculture to furnish him statistics of the bee-keeping interests of Missouri for publication, and in compliance with this request, I ask every bee-keeper of this State to assist in this matter by sending to me a report of how many colonies of bees they had in the Spring and Fall of 1890; how much combhoney, extracted-honey, and beeswax they obtained. I would also suggest you giving obtained. I would also suggest you giving all information possible concerning those keeping bees in your neighborhood. As there are to be some 40,000 copies of the Agricultural Report printed and distributed, we now have an excellent opportunity of bringing the bee-keeping interests before the people of the State of Missouri. Betore the people of the State of Missouri. By attending promptly to this matter, you will not only confer a favor, but will be materially benefited yourself by so doing.

J. W. ROUSE, Secretary

Missouri State Bee-Keepers' Association.

Mexico, Mo., Dec. 1, 1890.

Good Honey Crop.

My bees (about 100 colonies) have done exceedingly well this season. The colonies which were "strong" in the Spring (the great thing for success in bee-keeping) were in fine condition for the basswood gathering. I live on the banks of what was once a lake, but which has been dry for some years. This Fall this spot being a-bloom with sun-flowers, and the weather fine the bees have been even busier secret. for some years. This Fall this spot being a bloom with sun-flowers, and the weather fine, the bees have been even busier secreting nectar from these blossoms than when gathering from the basswood blossoms. The warm, bright days and heavy dews at night assisted greatly in the gathering of this nectar. I make a specialty of extracted-honey, and will be able to extract close on to 100 pounds from each colony, which retails at 10 to 15 cents per pound. My bees have many frames of honey, more than they cluster on, seemingly, without having been capped over, and, as far as I am able to judge, this has been placed in combs after the gathering was past. My honey is very thick this season. I notice on fine days that the bees still drink plenty of water. Do they thin the honey with this water? and will this account for the apparently fresh gathered honey in combs after the disappearance of the flowers and the many nights of frosty weather? In putting my bees aside for the Winter, I leave from 6 to 8 frames of the brood-chamber pretty full of honey, and fill the super with dry sawdust and leaves. I

move the entrance blocks to within an inch or half an inch. My hives are the 10-frame Langstroth.

P. L. FORGAN. Langstroth. P. Sloan, Iowa, Nov. 27, 1890.

[Bees do use water for diluting honey, preparing food for the young bees, etc.-ED.]

HONEY AND BEESWAX MARKET.

CHICAGO, Nov. 26.—There is not the volume of trade usual at this season, yet prices are without material change since last quotations. Best lots of white honey in 1-pound sections, brings 17@18c; brown and dark, slow, at uncertain prices. Extracted, 7@8c per pound. Our stock is light, as to quantity, but is kept well up to demand by daily receipts. Beeswax, 27@28c.

R. A. BURNETT, 161 S. Water St.

DENVER, COLO., Nov. 28.—First grade 1-lb. sections, 16@18c. Supply exceeds the demand at present. Beeswax, 25@28c.

J. M. CLARK COM. CO., 1517 Blake St.

DETROIT, Nov. 27.—Comb honey in good demand at 15@17c per lb. Extracted, 7@8c. Beeswax, 27@28c. M. H. HUNT, Bell Branch, Mich.

NEW YORK, Dec. 6.—We quote: Fancy 1-lbs., white, 16@17c.; 2-lbs., white, 13@14c. Off grades, 1-lbs., 13@14c.; 2-lbs., 12 cents. Buckwheat, 1-lbs., 12@13c.; 2-lbs., 11 cents. Extracted, white clover and basswood, 8½@9cbuckwheat, 6½@7c.; California, 6½@7c.; Southern, 65@79ce per galion. Market has been inactive for weeks. Beeswax, 25@26c. HILDRETH BROS. & SEGELKEN, 28-30 West Broadway.

KANSAS CITY, Nov. 28.—We quote 1-lb. white comb, 16@18c; 1-lb. dark comb, 12@14c; extracted, 5@7c. California 1-lb. white comb, 16@17c; 1-lb. extra C & C, 16c; 2-lb. extra C & C, 14c; 2-lb. white, 15c; extracted,6½@7c. CLEMONS, MASON & CO., Cor. 4th and Walnut Sts.

CINCINNATI, Nov. 12.—There is a good demand for all kinds of honey. Arrivals are fair of all but comb honey and Southern extracted. Small lots only of each are arriving, and are sold immediately. California honey seems to be as highly appreciated in our market as the best clover honey. We quote choice comb honey nominal at 18@18c per lb. Extracted honey at 5½@8c per lb.

Beeswax is in good demand at 24@26c, for good to choice yellow. C. F. MUTH & SON, Corner Freeman & Central Aves.

CHICAGO, Nov. 25.—New honey arriving very slowly, demand active, and all receipts are taken promptly. We quote: White clover 1-lbs., 16@18c.; 2-lbs., 14@15c.; dark 1-lbs., 11@12c; 2-lbs., 9@19c. Extracted meets with quick sale, values ranging from 6½@7½ cts., depending upon quality and style of package. Beeswax, 28@39c.

S. T. FISH & CO., 189 S. Water St.

BOSTON, Nov. 28.—We quote fancy white 1-pound combs, 19@20c; fair to good, 18@19c. No 2-lb, combs in the market. Extracted, 7@ 9c. No beeswax on hand. BLAKE & RIPLEY, 57 Chatham Street.

MILWAUKEE, Oct. 11.—Market is in good condition for honey; demand is steady and good values maintained, while the supply is fair to meet the current demands. We quote: Choice white 1-lbs., 17@18c.: good white 1-lbs. 16@17c. Dark and old 1-lbs., 10@12c. Extracted, white in barreis, 8½@9c.; in kegs or tin, 9@9½c.; dark, in barreis or kegs, 6@7c.—Beeswax, 26@30c.

A. V. BISHOP, 142 W. Water st.

ALBANY, N. Y., Dec. 6, 1890.—The honey market is quiet, but stock is light and prices well sustained. We are selling white at 160 20c; mixed, 14@15c; buckwheat, 13@14c. Extracted, white, 8½@10c; amber, 7@8c; dark. 6@6½c. Beeswax, 28@30c.
H. R. WRIGHT, 326-328 Broadway.



ALFRED H. NEWMAN. BUSINESS MANAGER.

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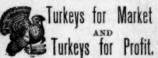
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